Bivariate Modeling Assignment

your name here

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# put the code to load any necessary R libraries and read in your cleaned data here. Delete t
```

(Q ~ B) Two sample T-Test for Independent Groups

1. **Identify response and explanatory variables**
2. **Visualize and summarise bivariate relationship**
3. **Write the relationship you want to examine in the form of a research question.**

Let μ_1 be the true mean ... Let μ_2 be the true mean ...

$H_0 : \mu_1 - \mu_2 = 0$
$H_A : \mu_1 - \mu_2 \neq 0$

4. **State and justify the analysis model. Check assumptions.**
5. **Conduct the test and make a decision about the plausibility of the alternative hypothesis.**
6. **Write a conclusion in context of the problem that includes a point estimate, confidence interval, and p-value.**

(Q ~ C) Analysis of Variance

1. **Identify response and explanatory variables**
2. **Visualize and summarise bivariate relationship**
3. **Write the relationship you want to examine in the form of a research question using symbols and words.**

Let μ_1 be the true mean ... Let μ_2 be the true mean ... Let μ_3 be the true mean ...

$H_0 : \mu_1 = \mu_2 = ...$

H_A : At least one group mean ...

4. **State and justify the analysis model. Check assumptions.**
5. **Conduct the test and make a decision about the plausibility of the alternative hypothesis.**
6. **Write a conclusion in context of the problem that includes a point estimate, confidence interval, and p-value.**

(B ~ C) Chi-Square test of Association

1. **Identify response and explanatory variables**
2. **Visualize and summarise bivariate relationship**
3. **Write the relationship you want to examine in the form of a research question using symbols and words.**

Let p_i be the true ...

$H_0 : p_1 = p_2 = ...$

H_A : At least ...

4. **State and justify the analysis model. Check assumptions.**
5. **Conduct the test and make a decision about the plausibility of the alternative hypothesis.**
6. **Write a conclusion in context of the problem that includes a point estimate, confidence interval, and p-value.**

(Q ~ Q) Correlation Analysis

1. **Identify response and explanatory variables**
2. **Visualize and summarise bivariate relationship**
3. **Write the relationship you want to examine in the form of a research question using symbols and words.**

Let ρ be the true ...

$H_0 : \rho = 0$

$H_A : \rho \neq 0$

4. **State and justify the analysis model. Check assumptions.**
5. **Conduct the test and make a decision about the plausibility of the alternative hypothesis.**
6. **Write a conclusion in context of the problem that includes a point estimate, confidence interval, and p-value.**